

COLUMBUS TESTING LABORATORY, INC.

ENGINEERING TESTING, INSPECTION and INVESTIGATION
2350 FISHER RD., COLUMBUS, OHIO 43204 / 276-8123

D. B. WARNER, President
B. KVAMMEN JR., Ph.D., P.E., Technical Director



NSPE, ACIL, ASTM, AQL,
AWS, ASNT, AAPT, ANS

February 28, 1974

City of Upper Arlington
3600 Tremont Road
Columbus, Ohio 43221



Attn: Mr. Donald Craven

Re: Laboratory Analysis of
Flume Sand
Lab Code 74-600

Gentlemen:

In accordance with your request, laboratory analysis of flume sand has been conducted to determine the materials fill blanket capability for land fill at the MCQ plant.

A complete gradation and hydrometer analysis was first made, see our enclosed gradation curve. The results from this test show that the soil is relatively impermeable with approximately 48 percent passing number 200 sieve. Among requirements for performing a permeability analysis according to ASTM Specification D-2434, is that the sample to be tested must contain less than 10 percent of the material passing number 200 sieve. Therefore, the obtained sample was not tested according to ASTM Specification D-2434, due to the high impermeability of this material. Instead, a comparable coefficient of permeability was obtained from reference #1*, which reveals a value of $.05 \times 10^{-4}$ cm./sec., or equivalent to 5 feet/year or .5 feet/month.

We appreciate the opportunity to serve you on this project. If you have any questions, please feel free to contact us.

Respectfully submitted,

COLUMBUS TESTING LABORATORY, INC.

B. K. Vammen Jr.
Dr. Brian Kammen, Jr., Ph.D., P.E.
Technical Director and
Chief Soils Engineer

* Hough, B.K., Basic Soils Engineering, Second Edition, 1959.

February 26, 1974

Re: Franklin County
Columbus
Marble Cliff Quarries
Solid Waste

Mr. Richard W. Rush
District Conservationist
U.S. SCS
3900 Great Southern Court
Great Southern Shopping Center
Columbus, Ohio 43207

Ohio EPA

John J. Gilligan
Governor
Dr. Ira L. Whitman
Director

Dear Mr. Rush:

This is to confirm and supplement our telephone conversation of February 25, 1974.

A sanitary landfill is being proposed by Upper Arlington. The proposed site is in Marble Cliff Quarries, on the south side of Trabue Road between McKinley Avenue and MCQ office buildings. Don Craven, Upper Arlington city engineer is familiar with the exact location.

It will be appreciated if a soil scientist from your office would provide this agency with an evaluation of the on-site soils including the "flume sand" on the site.

A meeting to discuss possible plans for the site has been arranged for 9:00 a.m. Wednesday, March 6, 1974. We will meet in Room 320 at the Seneca Towers, 361 East Broad Street, Columbus. It will be appreciated if your office could be represented at the meeting.

Yours truly,

DED

Donald E. Day
Assistant Chief
Division of Waste Management
and Engineering

DED/pd

cc: Tom Rusnak, CDO
cc: Dr. Robert Arnold
Columbus City Health Department
cc: Russ Stein, OEPA
cc: Wayne Becker, MCQ Industries

Project: City of Upper Arlington
Marble Cliff Quarries

Date: 2-27-74

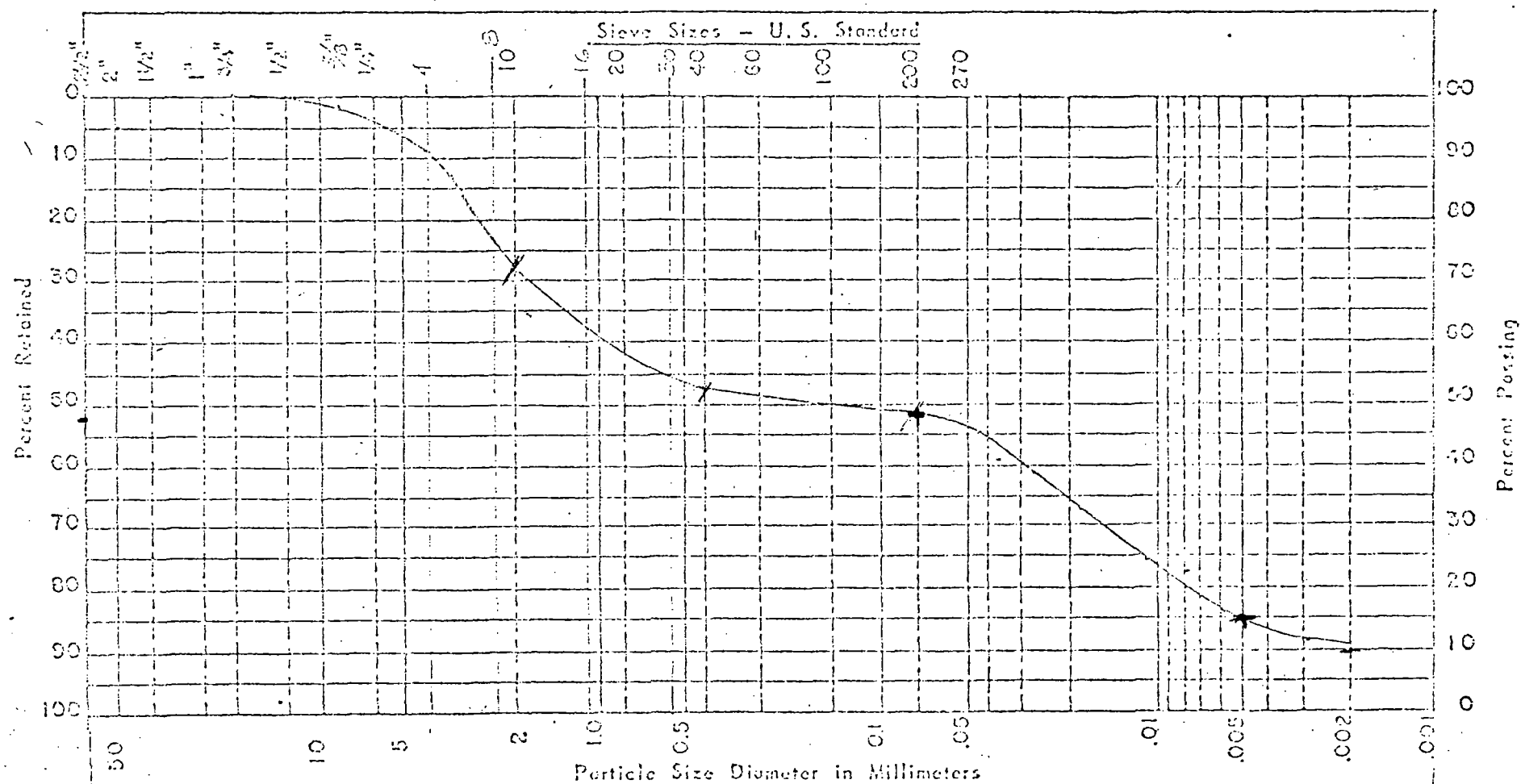
DESCRIPTION: Flume Sand

Sample No. 12

Tested by: ASH

DEPTH:

MECHANICAL ANALYSIS GRAIN SIZE ACCUMULATION CURVE

$$K = .05 \times 10^{-4} \text{ cm/sec.}$$


Course 28
Aggregate

Course 19
Send

5 Fine Sand

-200 Sieve 48

Cloy